MARINE RECORD

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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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RESTORE THE MERCHANT MARINE.

The value of an American merchant marine to the extension of our commercial trade and the strengthening of our power upon the sea invites the immediate action of Congress. Our national development will be one-sided and unsatisfactory so long as the remarkable growth of our inland industries remains unaccompanied by progress on the seas. There is no lack of constitutional authority for legislation which shall give to the country maritime strength commensurate with its industrial achievements and with its rank among the nations of the earth.

The past year has recorded exceptional activity in our shipyards, and the promises of continual prosperity in shipbuilding are abundant. Advanced legislation for the protection of our seamen has been enacted. Our coast trade, under regulations wisely framed at the beginning of the government and since, shows results for the past fiscal year unequaled in our records or those of any other power. We shall fail to realize our opportunities, however, if we complacently regard only matters at home and bind ourselves to the necessity of securing our share in the valuable carrying trade of the world.

Last year American vessels transported a smaller share of our exports and imports than during any former year in all our history, and the measure of our dependence upon foreign shipping was painfully manifested to our people. Without any choice of our own, but from necessity, the departments of the government charged with military and naval operations in the East and West Indies had to obtain from foreign flags merchant vessels essential for those operations. The other great nations have not hesitated to adopt the required means to develop their shipping as a factor in national defense and as one of the surest and speediest means of obtaining for their producers a share in foreign markets. Like vigilance and effort on our part cannot fail to improve our situation, which is regarded with humiliation at home and with surprise abroad. Even these sacrifices which, at the beginning, may be involved, will be offset later by more than equivalent gains

The expense is as nothing compared to the advantage to be achieved. The re-establishment of our merchant marine involves in a large measure our continued industrial progress and the extension of our commercial triumphs. I am satisfied the judgment of the country favors the policy of aid to our merchant marine, which will broaden our commerce and markets and upbuild our sea-carrying capacity for the products of agriculture and manufacture; which, with the increase of our navy, mean more work and wages to our countrymen, as well as a safeguard to American interests in every part of the world.—From President McKinley's message to Congress.

CONGRESS OF NAVAL ARCHITECTURE.

An International Congress of Naval Architectnre and Construction will be held, under the patronage of the French Government, in the Palais des Congress of the Exposition of 1900. It will be open on the 19th of July, and will last three days. This congress is of interest to engineers and constructors of ships and of motor and mechanical apparatus of every kind employed in ships, to the manufacturers of material and objects of whatever kind that may be used either in naval construction or in yards and workshops, to sailors, shipowners, and yachtsmen, and to every one who is in any way concerned in the progress of maritime locomotion. All such persons are earnestly invited to help the con gress with the fruit of their experience, investigations, and studies. They can do this by presenting communications to be read and discussed during the sessions, by taking part in the discussions, or as listeners. The printed report of the communications and discussions will be presented to each of the active members of the congress.

The questions coming under the consideration of the congress have been divided among six sections, without excluding other communications that belong to the art of naval construction. On all such points the Organizing Committee will be glad to receive correspondence.

Section A, Naval Architecture; Section B, Construction of Hull; Section C, Machine Construction; Section D, Special Disposition for Various Classes of Vessels, Transportation, Freight, etc.; Section E, Heavy Outfitting of Ports; Section F. Miscellaneous, History of the Progress of Naval Architecture, Development of Merchant, Pleasure, and War Ships, etc.

The fee for membership is 15 francs, this entitles the holder to a copy of the report of the proceedings. Persons who desire to present communications to the congress are asked to give timely notice to the secretary, indicating subject, treatment, etc. All papers, which should be accompanied by a short summary and summing up of conclusions must be handed in before the 1st of June, 1900. Members who cannot present their communications in person should intrust them to some other active member of the congress, after notifying the committee of organization. The Secretary General is M. Hauser, ingenieur de la Marine en retraite, 4 Rue Meissonnier, Paris.

CLOSING OF NAVIGATION.

Dates of closing of navigation at Sault Ste. Marie, Mich., and Duluth, Minn.

Year.	Sault Ste. Marie, Mich.	Duluth, Minn.	Year.	Sault Ste. Marie, Mich.	Duluth, Minn.	Year.	Sault Ste. Marie, Mich.	Duluth, Minn.
1855..	Nov. 23	Dec. 16	1870..	Dec. 1	Nov. 21	1885..	Dec. 2	Nov. 29
1856..	Nov. 28	Nov. 22	1871..	Nov. 29	Dec. 6	1886..	Dec. 4	Dec 14
1857..	Nov. 30	Nov. 20	1872..	Nov. 26	Nov. 24	1887..	Dec. 2	Dec. 28
1858..	Nov. 20	Nov. 20	1873..	Nov. 28	Dec. 30	1888..	Dec. 4	Dec. 31
1859..	Nov. 28	Nov. 9	1874..	Dec. 2	Dec. 11	1889..	Dec. 4	Dec. 4
1860..	Nov. 26	Dec. 4	1875..	Dec. 2	Dec. 10	1890..	Dec. 3	Dec. 8
1861..	Nov. 14	Dec. 12	1876..	Nov. 26	Dec. 19	1891..	Dec. 8	Dec. 7
1862..	Nov. 17	Dec. 16	1877..	Nov. 30	Dec. 17	1892..	Dec. 6	Dec. 6
1863..	Nov. 24	Dec. 7	1878..	Dec. 3	*	1893..	Dec. 6	Dec. 8
1864..	Dec. 4	Dec. 1	1879..	Dec. 3	Dec. 12	1894..	Dec. 6	Dec. 5
1865..	Dec. 3	Dec. 5	1880..	Nov. 15	Dec. 17	1895..	Dec. 9	Dec. 9
1866..	Dec. 3	Dec. 10	1881..	Dec. 5	Nov. 26	1896..	Dec. 11	Dec. 11
1867..	Dec. 3	Dec. 1	1882..	Dec. 3	Dec. 30	1897	Dec. 13	Dec. 13
1868..	Dec. 3	Nov. 21	1883..	Dec. 11	Dec. 24	1898..	Dec. 14	Dec. 15
1869..	Nov. 29	Nov. 12	1884..	Dec. 10	Dec. 25	Aver.	Dec. 1	Dec. 8

*January 2, 1897.

SOME LAKE HISTORY.

"Some history of lake shipping and much information about the enormous trade of the Great Lakes," is the subject of an article in the December Ainslee's. The story of the invention of the tug is particularly interesting. Without vouching for the remarks we quote in part as follows:

"At the time of the battle of Sandusky the typical lake vessel was a single-masted craft of some 100 tons burden, able to nose her way up into creeks and shallow harbors, and light enough to be dragged into its dock, when necessary, by a yoke of sturdy oxen. Now-a-days the hustling little harbor tug has taken the place of the primitive ox, and the little one-master has been superseded by the whaleback and the twin-screw steam barge. Before that time, of course, there has been sailing craft on the lakes. But it is a far cry from the day of the aboriginal Indian 'dug-outs' and the batteaux of the early French explorers, to the period of such palatial passenger steamers as the North Land and the North West.

"The first American vessel on Lake Erie was the Washington, built near Erie, Pa., as early as 1797. In the next year the Jemima was put together three miles below Rochester, by one Eli Granger, and was the first of our vessels to plough the waters of Lake Ontario. It was not until 1817 that a steamboat appeared on the lakes. This was the Ontario, which was made after the pattern of the Sea Horse, then running on Long Island Sound. During the following year Walk-on-the-Water appeared, and surprised the marine world by steaming from Black Rock, New York, to the prosperous little town of Detroit. It was a clumsy but wonderful thing, that primitive side-wheeler, with her belching funnels and cranky machinery, for on her first trip, we are told, she was greeted with cheers and cannon at every port into which she put. Her journey took her five days, and her passenger list was limited to 29, but she was a slight improvement on that original canal boat, with a great upright engine in her hold, which constituted the first lake 'tug.'

"It was on the Great Lakes that the three-masted schooner first made her appearance. The unique character of lake navigation created the necessity for this type of sailing craft, because of the fact that with this class of vessels, sailors could handle the sheets from the deck at times when it was impossible to go aloft in one of those sudden storms which makes the life of the lake skipper an uncertain and anxious one.

"But in time the screw propeller made its appearance and the triple-expansion steamer at last elbowed the sailing vessel out of her time-honored place on the lakes. The dethroned sailboat, once on the downward path, degenerated into the barge. She became the weaker vessel to her puffing husband, and dared not venture up the Detroit, or the St. Clair, or the 'Soo,' without a friendly line from her portly spouse swaggering along in the consciousness of his big boilers and twin screws. But in time, forsooth, he took to polygamy, and instead of taking in tow his one helpless schooner, he attached unto himself half a dozen dependent sister craft, and today he may be seen puffing importantly up and down river and lake with his five or six schooners trailing meekly behind him."

Navigable Waters—Bridges—Negligence in Construction of Draw.—Where the draw of a bridge maintained by a city over a navigable stream is provided by a lock at one end, sufficient to hold it in position when open, under ordinary circumstances, the city is not chargeable with negligence because such lock is not sufficiently strong to withstand the impact of a vessel striking against the side of the draw at the opposite end, or because the draw is not locked at both ends. City of Chicago vs. Wisconsin S. S. Co., 97 Fed. Rep. (U. S.) 107.

CHICAGO.

Special Correspondence to The Marine Record.

At Miller Bros.' the steamer H. R. James and M. F. Dutters were in dock for bottom calking.

Captain Henry Bundy has sold his steam yacht Glad Tidings to a syndicate of Chicago yachtsmen.

The Rutland line steamers Gov. Smith, Capt. W. S. Shay and F. H. Prince, Capt. Kiah, left here for Ogdensburg Monday night, Dec. 4th.

The tug Harry Lydon was in the Dunham Towing and Wrecking Co.'s floating dock for re-ironing, the tug J. H. Hackley is in for repairs, calking and ironing.

The first winter meeting of the Chicago branch 3 of the Shipmasters' Association will be held Wednesday, Dec. 13th, at 3 p. m., at their hall, at the Le Grand Hotel, Wells street.

The steamer Holden loaded 350,000 bushels of oats and left here for Buffalo, Sunday night. This is the largest number of bushels of grain ever carried out of this port in one cargo.

The Chicago branch of the Shipmasters' Association will give their eighth annual reception and ball on Thursday evening, January 11th, 1900, at the Medinah Hall, corner 5th avenue and Jackson block.

The new tug built by Burger & Burger, shipbuilders, Manitowoc, for Capts. Peter Barry and Joe Lamoreaux, was launched Wednesday, Nov. 29th. She will arrive here in about two weeks. The dimensions of the tug were given in a former issue.

On her last trip the steamer Soo City of the Holland and Chicago line brought in 500 barrels of the first beet sugar ever turned out by the factory at Holland, Mich. The beets were grown in the immediate vicinity of Holland and off down the country towards Saugatuck.

It's all off here now with grain cargoes since Tuesday night. The Majestic was the last boat to have her cargo covered, and it is not likely that any more business will be done until next season. Reports from the Straits still show that navigation is open, but insurance on cargoes is not procurable.

Capt. Hargraves, of the schooner John Kelderhouse, was called home to Detroit, on his arrival here last week, by a message informing him of the death of his son, who was killed by falling from the mast to the deck of the steamer John Emory Owen. The laying up of the schooner was left to Capt. Dennis.

J. B. Bates & Co., shipbuilders, have recently purchased the office and shop of the Marinette Barge line, adjoining their old quarters at 22nd and Sangamon streets. They are making preparations for a large job of winter repairing. The steamer Gogebic is at their yard receiving new floor, new deck forward and new planking on bow.

The steamer Geo. N. Orr, with package freight and grain left here last week on her initial trip with the Canada-Atlantic line. The Geo. N. Orr came into possession of the company Nov. 1, while the Arthur Orr, which was bought at the same time, was surrendered to the new owners Oct. 1. The latter vessel is now carrying wheat from Fort William.

The schooner D. R. Martin, one of the consorts of the steamer H. Luela Worthington, which went ashore at Long Point last week, has been released and towed to Alpena. The schooner loaded ties at Black river and was in tow of the tug Westcott bound for Alpena, when she went ashore in a fog. The Worthington and her consort Wilbur arrived here Monday night from Alpena.

Many vesselmen visiting this port will be sorry to hear that Mrs. Bridget Burns has passed away this week. She is survived by five children, all of Chicago, Wm. J. and Nicholas F. Burns, Mrs. J. F. Kearns, Mrs. Lizzie Plantz, and Mrs. J. W. Finn. Mrs. Burns held considerable property on the river, and for over forty years she carried her holdings in a skilful and business-like manner. Mr. N. T. Burns now carries on the business of his lately deceased mother.

It would make eastern firms fairly burst with envy to witness the Armour annual calendar for this year. Admiral Dewey as a frontispiece in gold, bronze and colors is simply a masterpiece of the printer's art. The pages following show the man and the girl, and the coming admiral behind the gun, all highly and elegantly colored. The girl, behind the man picture is beyond comparison, but the "coming admiral" is not only superb but indescribable as a two year old.

The Goodrich Co.'s steamer Atlanta, Capt. D.M. Cochrane, has been taken off the Chicago, Grand Haven and Muskegon route for this season. By the addition of the Atlanta to the west shore fleet the company will have five steamers running to Milwaukee and all points north all winter. In addition to the daily 8 p.m. boat every day in the year, there will also be a daily, except Sunday, boat to Manitowoc, a boat once a week to Sturgeon Bay and twice a week to Kewaunee and Algoma. The Iowa, Indiana, Atlanta, Racine and Georgia will cover the all-winter schedule.

The steamer John Plankinton is at the elevator ready to load grain for Buffalo, having reached there just before the expiration of insurance. It has not yet been decided whether the steamer will be sent down this fall or load the grain and hold it here until spring. So far as could be learned this is the last charter of the season with the exception of line boats yet to go. The Chemung will close the Union line business Saturday, and the Author Orr will take the last cargo of the Canadian Atlantic line the same day, returning here after delivering it at Depot Harbor. The last boat for the Lehigh Valley is scheduled for next Tuesday.

Five steamers of the Menominee line, which have been under charter for two years to the Canada-Atlantic railroad, are now being returned to their new owner, the National Steel Co. The Grecian left Escanaba with a cargo of ore at 6 o'clock Friday morning, the Roman left here Friday night to load iron ore at Escanaba, and the Briton left Gladstone Friday, for Buffalo, with a cargo of package freight. The German, which is bound from Duluth to Depot Harbor, will return to Escanaba. The Saxon, bound to Depot Harbor with general merchandise, may go back to Escanaba or go to Lake Erie direct. The charter was for two years, and called for the delivery of the boats on Lake Erie at the end of the season.

The International Seamen's Union began a convention at local seamen's union headquarters yesterday. The meeting will last the full week. National legislation will have a day to itself. The so-called Hanna-Payne shipping bill will be taken up and other matters relating more directly to the conditions and welfare of the sailors themselves. The meeting is held at 122 North Desplaines street. Delegates were present as follows: Atlantic coast, 4; Pacific coast, 4; Great Lakes, 4; Gulf of Mexico, 1; British Columbia, 1. The lake delegates were: William Penje, H Lindholtz, Chicago; M. Michelson, George Pearson, Milwaukee. Andrew Furuseth of San Francisco presided, and William H. Frazier was secretary. Committee chairmen were chosen yesterday. Saturday night the Chicago seamen's union will give a ball in honor of the national delegates at Aurora Hall, Milwaukee Ave. and Huron St.

DULUTH—SUPERIOR.

Special Correspondence to The Marine Record.

Shipments of iron ore from Marquette this season amounted to 2,720,000 tons, nearly 500,000 tons more than last year.

The Collingwood citizens will grant a bonus of $50,000 to the promoters of the new shipyard to be built there. Capt. Alex. McDougall, of Duluth, and Messrs. Thomas and J. J. Long and Charles Cameron are the leading men in the project.

Whitney Bros., of West Superior, began driving piles at Houghton this week for the new merchandise wharf of the Calumet & Hecla Co., at Lake Linden. The dock will be 40 feet wide and 1,500 feet long, beginning at the coal dock and stretching toward the smelters at South Lake Linden.

The Duluth, Masabe & Northern Railroad will build a new ore dock this winter, making three in their outfit. It is stated that the dock will be the largest on the lakes, and make Duluth's storage capacity greater than any other port. The work will be done by the Barnett-Record Company, of Minneapolis, and will be started at once.

Capt. Inman has designed a freight steamer capable of navigating the lakes throughout the winter season. The principal departure from the ordinary hull construction is in a ram bow, to cut under and through the ice, instead of the present style of a sloping fore foot so that the vessel's bow raises on top, allowing her weight and pressure to break down the ice. The model is also adapted for the cargo trade throughout the season of navigation, her general hull dimensions being given as 500 feet in length and 50 feet beam.

Shipments of ore have ceased from the Duluth docks of the Duluth, Missabe & Northern road, with a total for the year of 3,300,000 gross tons, which is against a total of 2,635,000 tons last year. The Eastern Minnesota is still shipping and will have a total of about 890,000 tons. This road shipped only 550,000 tons last year. The Duluth & Iron Range has passed a total of 3,900,000 tons and is shipping almost as actively as ever. It is intended by the company to carry on business until as near January 1 as possible, and its total may be 4,300,000 tons. This will mean Minnesota ore shipments of 8,400,000 tons.

Lumber shipping by lake from the Duluth-Superior docks has ceased for the season. According to the custom house reports on the shipment of lumber an aggregate of 393,469,750 feet has been sent forward this year. The aggregate shipments for last year were 337,072,000 feet, showing a gain for this year of 56,474,000 feet. Including the all rail shipments of lumber from Duluth the total shipments will be considerably in excess of 400,000,000 feet. Two Harbors shipped 21,088,000 feet of lumber this year, which is considerably more than was ever forwarded before in any one season. This brings the lumber shipments from the head of the lakes up to a total of 414,557,750 feet. The rail shipments during the year will easily bring the total amount up to 425,000,000 feet.

BUFFALO.

Special Correspondence to The Marine Record.

The Selwyn Eddy loaded here on Wednesday what is said to be the last coal cargo of the season but no doubt a few more loads will clear if the weather holds as it is.

The steamer W. H. Gratwick will be placed in dry dock and damage received through grounding in Niagara river made good. This, of course, will end her season's work.

The large steamer W. D. Rees, of the Wilson Transit Line, arrived here Wednesday with a cargo of flaxseed and grounded in the creek before reaching the elevator, partly blockading traffic.

The Bessemer boats are chartered to carry and hold for winter storage here about 1¼ million bushels of Duluth wheat. These big scows are good floating warehouses and can hold wheat as well as any elevator.

Coal shipments from this port up to December 1st exceeded those of last year by over 288,000 tons. The heaviest shipments from this port were made in 1892, when 2,852,330 tons were exported. Up to date this year the shipments compared with 1892, are about 100,000 tons less.

Several cargoes of coal will leave here this week without being insured. When owners risk the hull, underwriters ought to take a chance on cargoes. A broker told me yesterday that if owners would get together and cover some of their own risks profits would be found and navigation prolonged, or rather, that one factor would give the other result.

The Sherwin-Williams Co., 100 Canal street, Cleveland, write the Buffalo Forge Co. as follows: "We have your favor of the 20th inst. asking about our heating system. We desire to say that the heating system installed by you last year was quite satisfactory. We are also running it during the summer, not so much for cooling as to get circulation of air through our basement, with entire success."

The Merchants' Exchange points out the lack of harbor facilities for modern lake commerce. Edward Smith, Charles Brunn, Capt. J. J. H. Brown, C. H. Keep, R. R. Hefford, Maj. Thomas W. Symons, Corps of Engineers, U. S. A., and many vesselmen agree that improvements are badly needed, and steps should be taken as soon as possible to carry them out. Mayor Diehl is in full accord with the views presented by the marine community.

The total appropriations asked for on account of river and harbor improvements under the continuing contracts system is $15,582,026, an increase of nearly $10,000,000 above present appropriation. Under the Missouri River Commission $1,000,000 is asked for, and under the Mississippi River Commission $3,000,000; Buffalo harbor, $116,661; Buffalo entrance to Erie basin and Black Rock harbor, $198,113; Dunkirk harbor, $20,000; Tonawanda and Niagara river, $100,000; for a small light at Youngstown, $2,000; Wilson harbor, $2,500.

Lieut. Robert L. Russell, U. S. N., who, since the middle of September, has been in charge of the naval recruiting office here has been ordered to remove to Cleveland, and the recruiting station will be closed on Dec. 8. Since opening the station in Buffalo, Lieut. Russell has enlisted 270 men. In view of the fact that so many new ships are building for the government, the Lieutenant thinks that the chance of promotion for recruits is very good. His standard of men has been very high, and he has been complimented on the splendid showing made by the men who have been sent on from this port.

The Montreal harbor commission held two long private sessions on Wednesday. The Hon. J. Israel Tarte, minister of public works, was present and the commission discussed further the Harcourt-Conners syndicate's elevator proposal. After the meeting the Hon. Richard Harcourt, W. J. Conners of Buffalo and H. D. Goulder, Esq., of Cleveland, had a conference with the commission. When this was finished it was announced that the basis of an agreement had been reached between the commission and the syndicate's representatives. It is in effect what has been stated already as embodied in the clauses of the syndicate's offer. An important penalty clause was added. The clause provides specifically that if the syndicate does not bring to the port of Montreal in three years the volume of trade guaranteed it forfeits all its property; that is, 25,000,000 bushels are guaranteed for 1900, 35,000,000 bushels for 1901 and 35,000,000 for 1902 and the same each season thereafter. That is the minimum. Therefore, if the syndicate has not brought 95,000,000 bushels of grain to Montreal in three years over and above the present trade and the natural increase, it forfeits its property, elevators, etc.

DETROIT.

Special Correspondence to The Marine Record.

The Progress and W. D. Rees, both bound down, had a slight brush at Lime Kiln Crossing, on Monday, but there was no collision damage so far as learned.

Great credit is due Col. Lydecker, Corps of Engineers, U. S. A., for the well-advised, prompt and vigorous manner in which he raised the blockade at the St. Clair Flats canal, caused by the grounding of the Fritz.

It is reported that the Craig Ship Building Co., Toledo, is closely figuring on, if not already contracted, to build a large passenger steamer for the Lake Michigan trade, also that other new work is about being closed for the Toledo yard.

A large quantity of steel has been received this week at the West Bay City shipyard and work on the two large steamers will be rushed. The working force will be added to from day to day, and before the close of the present month the company will be employing between 700 and 800 men.

Advices from Saginaw are to the effect that F. W. Wheeler of West Bay City, has purchased from Wickes Bros. their fine steam yacht Catherine. The boat is 125 feet long. The purchaser, it is said ,will cut the yacht in two and lengthen her several feet, fitting her up as a pleasure steamer. The purchase price is not given.

Some ice is making in the rivers this week, and we have also had low water through the southwest weather, on the whole, it looks as if navigation would soon be over, despite the wish of some owners to override their insurance limit. Owners may risk hulls but they don't want to cover cargoes, and, just as an owner mentioned to me a day or two ago, it is not the weather, but the underwriters, that close navigation.

In connection with the new fire boat to be built here it is stated that the present boat is very serviceable, and the only fault found with her is in speed. Her form as an ice-crusher prevents fast runs, but the ice crushing is as necessary as speed. Mr. Kirby will combine the two features in the new craft, and it is hoped to have an ice-crusher that can spin through the water as well, and it is confidently expected that Detroit will have the best fire fighting floating machine on the chain of lakes.

Capt. D. A. Heath, of Saugatuck, has a plan for resuming navigation of the Kalamazoo river from Saugatuck to Allegan, a distance of about 50 miles. He says he can run steamers of light draft which will carry 60 tons of freight, besides passengers, if about $300 are expended in removing one sand bar a few miles below Allegan, and that he may put on a daily line of boats between Allegan and Lake Michigan, next summer, if the people of Allagan are sufficiently interested to have the bar removed.

It has about been decided by the Rutland line not to rebuild five of the Ogdensburg boats into passenger steamers, as planned earlier in the season, because the expense would be too great for the results to be gained. The latest idea is to contract for a fleet of new, first-class passenger steamers to be built in time for the season of 1901 and to run in connection with the present fleet, which will be retained as freight carriers. The route is still in question for the new vessels, but it will likely be on the route of the Rutland line at present.

The blockade of the St. Clair Flats canal was lifted Wednesday by getting the big tow barge Fritz out of the channel, and boats began passing in both directions. The wind, which had been blowing from the northwest all day, about sixteen miles an hour, subsided, and the water at the mouth of the Detroit river began to rise. The fleet of big carriers which has been held up started to move out. By evening there was seventeen feet six inches at Lime Kiln Crossing. By midnight it was expected that the entire down-bound fleet would be on Lake Erie. Many of the boats are chartered for return cargoes of coal.

The United States Deep Waterways Commission was in session here on Tuesday preparing a preliminary report, asked for by the Secretary of War, requesting the commissioners' recommendations as to the regulation of lake levels and the effect thereon of the Chicago drainage canal and other possible influences. The commission will perhaps recommend that the levels be maintained by a dam or similar means at the foot of Lake Erie, so as to offset the waste at other points. The next best thing to do would be to enclose each lake and then regulate the flow at Niagara. It now looks as if a canal style of navigation would about fit the lakes, or their connecting waters.

Capt. Moses W. Humphrey, who took the steel steamer Porto Rico from the Craig Ship Building plant, at Toledo, to her owners in New York City, returned home Saturday. The trip was made without delays of any kind, and the Porto Rican Steamship Co., for whom the boat was built, were well pleased with the steamer. Capt. Humphrey is enthusiastic over the new Soulanges canal. The entire distance of 14 miles of the new waterway was made by the Porto Rico in three hours and 15 minutes, three locks with a drop of 22½ feet each being passed in 48 minutes. Every lock is worked by electrical power, and the captain says that not a single minute is wasted in getting vessels up or down. Capt. Humphrey says that the new canal is the finest engineering work that he ever saw.

Lieut. Wm. Truxton, U. S. N., in charge of the naval shipping office on Fort Street, is receiving 20 applicants a day, but only about one a day is accepted. The physical examination is so rigid that a man must be practically perfect to pass it. The navy has been confronted by the need of men of the rank of "seamen." The restrictions for them are high. A man must have had four years' sea service to be eligible, and it was decided to enlist a large body of men with the rank of "landsmen" and train them up for seamen. No knowledge of the sea is required to be a landsman, only a fine physique. About 2,000 such recruits are wanted. They will be put on training ships. In a year it is thought that an American-born landsman can be drilled into a capable seaman. Only American-born men are accepted.

CAPT. GEORGE SKELDON, a well-known marine man, was struck by a street car at Toledo, on Monday and died from the result of his injuries on Tuesday.

CLEVELAND.

Special Correspondence to the Marine Record:

It is now certain that a larger fleet than usual will winter at this port.

The schooner Onward, sunk off Port Clinton harbor, is to be removed as soon as possible.

Lieut. Russell, U. S. N., will open a naval shipping office at this port in the course of a few days.

The former Menominee fleet, now owned by the National Steel Co., will go into winter quarters at this port.

The Minnesota Steamship Co. will keep their boats running as long as the ice will permit. Insurances on hulls and cargoes will not be looked for.

A large portion of the tonnage owned by the Bessemer Steamship Co., will winter at Lorain, several of the fleet is to hold grain for winter storage at Buffalo.

Quite a nnmber of Lake Michigan coal dealers visited here this week, among whom were Messrs. Uhrig, Buell, Reiss and Jones. Coal is more a commodity than ever this fall.

Capt. S. W. Gould, teacher of navigation and lake pilotage rules, has opened his nautical academy for the winter. All of Capt. Gould's students are successful in passing their examination.

All river and harbor improvement work, new construction, etc., in this district, has been suspended for the season. A number of important contracts will be entered into to commence in the early spring.

A short extension is being granted by insurance companies on account of the steady open weather, but the rates are so high as to almost prohibit traffic, considering that freights are not remarkably good.

Capt. J. P. Devney, Ashtabula, will build the hull of a fish tug this winter. The Harbor Ship Chandlery machine shop will build the engine and Connelly Bros., of this port, the Scotch type boiler.

The steamer Zenith City will be the last boat to take coal to the head of the lakes. She will load Friday. The Escanaba ore rate is unchanged at $1, and a large number of vessels have been placed ahead at that figure.

A local manager received the following dispatch from Smith, Davis & Co., Buffalo: "London cables there is partial market for trip risks on vessels sailing not later than December 7, at rates ranging from 1¼ to 1½; policies free of particular average absolutely.

The steel steamer Yuma, of the Wilson Transit Co., to load coal at Sandusky for Milwaukee, was insured this week on a special extension trip policy for $100,000. Her ordinary insurance valuation is $130,000 and her owners will have to take a $30,000 risk on the trip. She will leave Sandusky, Thursday, and make the trip in less than three days. The insurance will cost her owners $1,000.

The movement of ore from Escanaba is still heavy, and with favorable weather shipments will continue until the middle of the month, as vessels that are to load coal are under charter to bring ore back. The rate is unchanged at $1. There is some inquiry for vessels to load grain for Buffalo. Two cents on corn is offered, and if owners can get insurance for the trip, some charters will be made.

I ran across Mr. Jos. H. Kline this week, of the firm of the B. W. Housum Co., and he pressnted me with an Armour's souvenir calendar, one of the most elegant advertising publications of the season. Armour & Co. certainly do themselves credit with their Admiral Dewey naval pictorial calendar, and there is no better man in the city than Mr. Kline to call attention to the business aptitude, competency and efficiency, as well as all powerful resources to furnish a world's supply of the Armour productions.

Dr. William J. Pettus, surgeon in the United States marine hospital service, who is to take the place of Dr. Henry W. Wickes, who goes from this city to Glasgow, Scotland, has arrived in this city and will take up the work in the marine hospital. Dr. Pettus has been in the United States marine hospital service for many years. He is a native of Virginia and a graduate of the University of Virginia. The last place at which he served was at the Cape Charles quarantine station, with headquarters at Fort Monroe. He has been in most of the important stations throughout the country and has seen service on the Great Lakes at Buffalo, where he was stationed for several years.

It is learned that the season rate on coal from Ohio ports to the head of Lake Superior for 1900 has been fixed at 50 cents. It is understood that the contracts were made by a shipper from the Pittsburgh district and a large shipper from the Hocking district, but the names of the vesselmen that took the coal has not been learned. The amount of coal covered by freight contracts at the rate named is placed at 300,000 tons. A large shipper said that he was sure that that much was covered. Some more figuring is being done. No chartering for Lake Michigan ports for next year has been done, but shippers to Milwaukee and other Lake Michigan ports will probably get in line before long.

Capt. John Edwards, of the Cleveland and Buffalo line steamer City of Erie, figures on retiring from sailing after this season. Capt. Edwards has been on the lakes for the past forty-six years. When the Cleveland and Buffalo Transit Company was organized seven years ago, he started as master of the steamer State of Ohio. When the City of Buffalo came out he was transferred to that boat, and then when the City of Erie came out he was again transferred, always being given charge of the finest boat of the company. He has been one of the most careful navigators on the lakes. It is said he will spend next year abroad, going to Paris in 1900. All hands hope that Capt. John will have a good time in gay "Paree," and return safely to his old abiding places.

Cleveland fishermen are watching with anxiety a case which was decided Monday by Judge Wildman, of Norwalk, of the common pleas court, in which he declared as unconstitutional certain parts of the state game and fish laws. The fishermen of Sandusky, Port Clinton and Huron formed a combination for the purpose of testing the law in regard to the confiscation of nets set in water less than thirty-six feet deep, and also on the point of taxing nets and tugs. The decision rendered was in favor of the fishermen. It is now thought that the case will be carried to the supreme court. If a decision is rendered favoring the fishermen there, and declaring the law unconstitutional, an effort will be made locally to have all the taxes paid by the fishermen for their nets and tugs refunded to them. Tugs are taxed $40 and nets $3 per year. If the law is decided to be unconstitutional it will mean the refunding of several thousands of dollars to the local fishermen, as they have paid this tax for two years, though few nets have been confiscated.

FLOTSAM, JETSAM AND LAGAN.

The Ann Arbor car ferries will run all winter to Menominee, Wis.

The five steamers of the Menominee line, which have been under charter for two years to the Canadian-Atlantic railroad, are now being returned to their new owners. The National Steel Co.

The small schooner Commerce, with railroad ties, Cheboygan, Mich., to Chicago, stranded at Waukegan on Tuesday. Assistance was immediately sent to her, but considerable loss is certain to ensue.

The steamers Roumania and W. F. Sauber have been ordered into winter quarters at Milwaukee. The steamer Parks Foster will winter at South Chicago and the steamer Ira H. Owen will be laid up at Chicago.

Capt. Thomas Donnelly of Kingston, inspector for the board of insurance underwriters, has just settled damage claims for three vessels, the Crescent City, at Midland, cargo of damaged grain; Steamer Princess Louise, burned at Lacolle, Que.; steamer Imperial, burned at Amherstburg.

The Myles Transportation Co., limited, has received letters patent from the Ontario Government to carry on a navigation and transportation business on the lakes. The provisional directors are Richard and John T. Williamston of Niagara Falls, N. Y.; Chas. J. Myles, R. O. MacKay and Mrs. Ellen Dillon, of Hamilton, Ont.

All classes of tugmen in Chicago will be joined in a protective association before the opening of navigation next spring, if the plans of the organizers are successful. A charter has already been obtained at Springfield, the official name being the Chicago Tugmen's Protective Association. It will include all classes of tugmen, captains, firemen and deckhands.

One of the latest of the Canadian enterprises incidental to the effort on the part of that government to develop its inland marine interest, is the Myles Transportation Co., limited, which has been granted letters patent from the Ontario government, to carry on a navigation and transportation business on the lakes. The provisional directors are Richard and John T. Williamston of Niagara Falls, N. Y., Charles J. Myles, R. O. Mackay and Mrs. Ellen Dillon of Hamilton, Ont.

21,254,000 tons of Canadian commerce valued at $200,000,000 and 168,000,000 tons of American commerce passed through the Sault canal in 1899. So a writer in Ainslee's Magazine says. The same writer is also authority for the statement that 200,000,000 passengers patronized the various lake passenger routes during the past summer. After giving every man, women and child in the country their lake trips in one season, the writer informs us that the country as a whole is comparatively unaware of the importauce of the Great Lakes. Wild figures and statistics are sometimes given regarding lake commerce and transportation.

At a meeting of the board of ditectors of the Philadelphia Maritime Exchange, held on Monday, several letters were read from local shippers asking the Exchange to do what it could to break up long barge tows. It was claimed by the writers that these tows have become a positive menace to shipping. The skippers of steamers and tugs have been of late increasing their tows until it is a common sight along the coast, and upon the Delaware River and Bay, to see a whole fleet of barges in tow of a single tug. This practice has been condemned by the captains of all sorts of vessels arriving in port, and they claim there should be a limit.

A petition is being got out, that all down-bound barges in the "Soo" river be compelled to take tugs in the dangerous parts of the river. The great losses incurred from the sinking of the Douglass Houghton and the stranding of the steamers has led to this appeal to the War Department to protect its channel to Lake Superior. The losses from the detention of 140 vessels in the "Soo" passage at the critical period when last trips count for so much, have led to the resolution to secure protection against similar accidents in the future. The rules of the road in the navigation of the "Soo" river have tended largely to decrease the danger from detention, but they do not meet fully the requirements. This has led to the demand for fuller requirements.

ASTRONOMICAL DATA FOR DECEMBER.

Astronomical data for December, 1899, furnished by the Washburn observatory: Mercury and Venus are both evening stars at the opening of the month; but, while the latter daily appears higher in the southwestern sky after sunset, and more brilliant, the former is receding toward the sun and passes through inferior conjunction Dec. 5. It then becomes a morning star, and may be seen later in the southeastern sky before sunrise, most favorably about Dec. 24, on which date the planet reaches its greatest distance west from the sun. Mars and Jupiter are too near the sun for observation the present month; but Jupiter is becoming visible again, and may be seen as a brilliant, steady star in the southeastern sky in the morning.

The times of sunrise and sunset for the month at Milwaukee are as follows:

	SUNRISE.	SUNSET.
Dec. 1	7:04	4:18
" 11	7:14	4:16
" 21	7:21	4:19
" 31	7:24	4:26

The times of the moon's phases are:

New moon	Dec.	2, 6:48 p. m.
First Quarter	"	9, 3:03 p. m.
Full moon	"	16, 7:31 p. m.
Third Quarter	"	24, 9:57 p. m.

The principal fixed stars visible during the month in the evening hours are:

To the west; Vega, Altair, the bright stars of the constellation Andromeda. To the east; Aldebaran, the Pleiades, Sirius, Procyon, the stars of the constellation Orion, Capella, Castor and Pollux.

There will be an annular eclipse of the sun on Dec. 2, in the early evening according to the time of the western world; but no phase of the eclipse will be visible outside of the Antarctic, southern Pacific, and southern Indian ocean. The path of central eclipse passes near the south pole.

There will also be an eclipse of the moon this month, on the evening of Dec. 16, visible in all or a large part of its duration throughout the continents of the world. It will be, strictly speaking, a partial eclipse although barely one edge, the southern limb, will be left outside of the total shadow of the earth at the middle of the eclipse. The moon will rise a few minutes before the sun sets and enter the earth's shadow at 5:45. The middle of the eclipse will be reached at 7:26, and the moon will leave the shadow at 9:07, thus making the whole duration 3 hours 22 minutes.

This eclipse is so nearly total that it may be utilized largely as such for purposes of observation. Total eclipses of the moon are valued by astronomers chiefly for the opportunity they present for observing faint stars at or near the edge of the moon, stars too faint to be seen near a bright moon. The elements of observation are the times of disappearance of the stars behind the moon, and their reappearance, as the moon moves eastward in the sky, and any relative displacements of the stars due to a possible lunar atmosphere. Temperature effects at the surface of the moon are also studied by the aid of suitable and very delicate apparatus.

PRECIPITATION IN THE LAKE REGION, OCTOBER 10, TO NOVEMBER 13, 1899.

DECEMBER METEOROLOGICAL CHART.

On the whole rainfall was a little less than the average, although there was an abundance of rain in a number of localities. The Lake Superior region from Marquette westward to Duluth received more than the normal amount, and it is quite probable that the water which fell on the lake equaled, if it did not exceed, the amount that was lost by evaporation. The northern shore received about 2 inches on the average, and the whole lake surface probably half an inch more, viz., 2.50 inches. The rainfall of the week that ended October 16, was especially heavy over the western end of the lake. Over an inch fell at Port Arthur, nearly 3 inches at Duluth, and an inch and a half at Marquette and Sault Ste. Marie, respectively.

The total rainfall on Lake Michigan probably fell short of the normal amount by at least an inch and a quarter. From Chicago to Escanaba the actual rainfall did not exceed an inch and a half, but on the eastern or Michigan shore the fall was nearly double that of the western shore.

The rainfall on Lake Huron was probably as much as 3 inches, or nearly double what it was on Lake Michigan. The rainfall in the Lake St. Clair and Detroit river basin was also heavy, the average amount being about 3.50 inches.

The precipitation on the western end of Lake Erie was equal to the average, but from Lorain eastward it fell considerably below the normal amount. The average for the entire lake was probably 2.25 inches.

Heavy rains fell over the eastern end of Lake Ontario, but the fall on the western end was not up to the average. The average for the whole lake was not far from 3 inches.

The mean height of water in Lakes Superior, Michigan, Huron, Erie, and Ontario, above mean tide in New York for October, 1899, respectively, as shown by observations of lake levels made under the direction of officers of the Engineer Corps, United States Army, is shown in the following table. The rise or fall in level since the preceding month is also shown:

	October, 1899.	
	Feet.	Change.
Lake Superior, Marquette	602.79	— .03
Lake Michigan, Milwaukee	580.09	— .33
Lake Huron, Harbor Beach	579.94	— .41
Detroit River, Amherstburg	571.89	— .18
Lake Erie, Cleveland	571.72	+ .06
Lake Ontario, Oswego	.....	.....

Lake Superior has remained at practically the same stage as obtained during the previous month, thus insuring the transmission of a volume of water to the lakes below almost equal to the maximum transmitted supply of the year.

Lake Michigan, while a few inches higher than for the corresponding month a year ago, fell about 4 inches as compared with the stage of the previous month. As hereinbefore stated the rainfall in the Lake Michigan basin fell short of the normal amount by about an inch and a quarter. For the corresponding month a year ago, rainfall in the upper lake region was above normal, on the average of all stations, about an inch. The levels of both Lakes Michigan and Superior during that month remained at about the same stage as for the previous month. The heights in feet above mean tide at New York are as follows: Lake Michigan, September, 1898, 579.94; October 579.93. Lake Superior, September, 1898, 602.26; October, 602.20.

Isolated facts like these, while suggestive of a closer connection between rainfall and lake levels than some have been disposed to admit, are not necessarily conclusive. A further study of the subject should be made.

The level of the Detroit river at Amherstburg was but little below the average stage of the previous month, while the observations made at Cleveland, on Lake Erie, show a very small rise in level as compared with the preivous months. The local supply, due to rainfall in the Lake Erie basin, was a little less than for the previous month, but the transmitted supply from the lakes above may have been greater, owing to more general and heavier rains on the upper lakes.

IT IS safe to say that among the many members (several of whom come from out of town) of the Society of Naval Architects and Marine Engineers who met in New York recently none received heartier welcomes than did Stevenson Taylor, the general superintendent of the North River Iron Works, Hoboken, N. J., who has been ill since last July, due to typhoid fever. This popular and highly esteemed engineer was surrounded by friends who kept him busy shaking hands and receiving their hearty congratulations upon his restoration to health. Mr. Taylor is now on the highway to recovery and ought to be himself again before the end of the year. Another prominent and well known engineer who received much attention was Geo. W. Dickie, general manager of the Union Iron Works, who kept his hearers on a broad smile by his brilliant repartee and Scotch humor. Among the younger men who appeared much in demand was the clever white haired naval architect and engineer, W. I. Babcock, manager of the Chicago Ship Building Co. His handsome young face and grey hair attracted much attention, and the qnestion often asked by strangers was "Who is that good looking young man with white hair?" When Mr. Babcock was with the Morgan Iron Works he used to pass for a German, his hair was so light, but he has turned prematurely grey in the last five years, and the responsibility of carrying on a great shipyard may have had something to do with making silver threads on his head.—American Shipbuilder, New York.

NOTES.

THE British admiralty are experiencing great difficulty in obtaining the requisite number of skilled mechanics to properly man their vessels. An English paper says: "Previous arrangements made with the object of attracting a regular supply of properly qualified engine room artificers for the navy having quite failed, and the establishment being about 500 below the necessary number, the admiralty have adopted a plan in which Great Britain has been mapped out into five marine engineering districts. In each of these districts is to be appointed an admiralty agent, who must be a consulting engineer in touch with all the marine engineering works in the district, and consequently be in the best position to obtain and select the best men."

WIRELESS telegraphy, Marconi's system, has finally been introduced into the British navy as a branch study. The old hulk Hector, lying at Portsmouth, has been fitted out as a school of instruction, and signalmen from her will be attached to the battleship Camopus, which goes to the Mediterranean in December, taking Marconi instruments as a part of her regular equipment. She will be the first British ship to do this. In a reported conversation Signor Marconi said that cannonading would not interfere with its success. It has been tried when the biggest guns in the British navy were being fired, and not the slightest difference was perceptible. Experts at the war office are thoroughly satisfied of its value in actual warfare, and will fully test its capacities in South Africa. Here the only important step taken by the government is to ask for estimates for stations in England.

CLOSELY associated with the magnetic pole is the mysterious phenomenon, the aurora australis. It would be interesting to have a prolonged series of auroral observations to add to the first records taken by the "Belgica." This information will help to solve the puzzling questions of the physical character and the origin of the mysterious celestial lights. Some of these questions are: What is the difference between the aurora australis and the aurora borealis? Is there any coincidence in the appearance of the phenomena at both poles? What is the relation of the exhibits with the sunspots? What relation have auroras with meteorological phenomena —with weather, the clouds, the atmospheric electricity? What are the connections between auroras, earth-magnetism, and telluric currents?—From "The Possibilities of Antartic Exploration," by Frederick A. Cook, M. D., in the December (Christmas) Scribners.

THE United States Commissioner of Shipping is determined to educate the people up to the great height of the argument of the advocates of shipping bounties. He has issued a remarkable statement of the amounts paid by the various nations for bounty, mail service, and naval subvention. According to this statement France pays £1,528,000, Great Britian £1,152,000, Italy £423,000, Germany £379,000 and Russia £345,000, per annum, in the subsidising of their shipping. The absurdity of regarding our mail contracts and naval subventions as in any sense in the nature of bounties has been repeatedly exposed in these columns. Still the Americans go on advertising and swallowing the delusion. The French bounties and subventions work out, it seems, at 27s. 2d. per gross ton, the Italian at 10s. 8d., the Russian at 8s. 1d., the German at 3s. 9d., and the British at 1s. 11d. But France, Italy, and it may now be added, Japan, are the only countries that pay direct bounties on their shipping. France pays £373,000 bounty on navigation, £200,000 bounty on construction, and £24,000 in fishing bounties. The British payment of £1,152,490 consists of £753,300 for carriage of home and foreign mails, £153,000 for carriage of colonial mails, £63,000 for naval subvention to merchant cruisers (now discontinued), £121,400 to naval reserve men, £30,000 to the Canadian fishermen, and £30,000 rebates in support of apprentices. And it is by such payments that the advocates of American subsidies delude themselves by thinking, or try to delude others into believing that the maritime supremacy of Great Britain has been acquired!—Fairplay, London.

Seamen not Co-Charterers.—The fact that the master, who is part owner of a fishing vessel, charters it for his co-owners for a voyage on the "quarter clear lay," and afterwards engages a crew, agreeing to give them the same share of the catch as though they had together chartered the vessel, does not render the members of the crew co-charterers; but they have all the rights of seamen, including the right to a lien on the vessel, as for wages, for the value of their share of the catch. The Carrier Dove, 97 Fed. Rep. (U. S.) 111.

THAT METEORIC DISPLAY—DECEMBER ASTRONOMICAL NOTES.

The confidently predicted and anxiously-awaited meteoric display of Nov. 13-17 did not meet expectations. In many places clouds seriously interfered with observations; in others where the sky was clear the meteors were disappointingly few. A letter recently received by the writer from Professor W. W. Payne, of Goodsell Observatory, Northfield, Minn., in reply to the question if the meteoric display met his expectations, is so exactly to the point that I reproduce it in part as follows: "Answering your favor of Nov. 20 I would say that most decidedly the meteoric shower of Nov. 13 to 16 did not meet my expectation, nor the expectation of any astronomer that I have heard from so far. We have brief reports from many parts of the world, including Russia, England, India, different parts of the United States, Canada and Germany. Something of a display was witnessed near Berlin, though nothing remarkable if we have the correct report. The work in every particular so far as I have heard, was disappointly weak."

The same writer expresses his opinion of Dr. See's statement, that the general display would not take place till next year as follows:

"I do not know on what ground Dr. See makes the statement which has been published so widely already. I doubt very much if he has any substantial ground for such a statement."

Clouds prevailed at Toledo almost continuously during the dates predicted for the shower. But on the morning of the 17th the sky was fairly clear, though the bright moon and a slight haze put out all the stars less bright than the second magnitude. A somewhat protracted watch by the writer was not rewarded by the sight of a single meteor. The writer has not seen any explanation as to why the meteors did not more generally keep the appointment made for them by astronomers. Before coming in contact with the atmosphere they are entirely invisible in the field of the largest telescope. No one knows how numerous they may be, or how dense the swarm.

We know that the number must be materially diminished by each encounter with the earth, as each meteroid that enters our atmospere is either entirely destroyed by friction, or if it survives that ordeal it finds a final resting place upon the earth, and its career as a wanderer in celestial spaces is forever at an end. We have learned that meteors may disappoint us by their non-appearance at the appointed time, but the stars in their courses never thus deceive us, we may always know where to find them.

Vega in Lyra, Deneb in Cygnus and Altair in Aquilla are now about midway between the horizon and zenith toward the west in the early evening. Fomalhaut in the Southern Fish now a little west of south, early in the evening, will cease to be an object of interest in our evening sky after the close of the present month. The great Square of Pegasus is now almost directly over our head in the evening. Toward the northeast Ursa Major with the Great Dipper seems climbing up the heavens. Capella in Auriga will pass the meridian in the evening, a few degrees north of our zenith during December. The Pleiades and Hyades in Taurus are now about midway between the eastern horizon and zenith in the early evening. Orion, perhaps the most generally known, and certainly the most brilliant constellation in the heavens, may now be found once more in our eastern evening sky. Its general outline is that of a large quadrilateral with Betelgeuse and Rigel, two first magnitude stars, at diagonally opposite corners; the other corners are marked respectfullyby Gamma and Kappa Oroinis, the former a second, the latter a third magnitude star. Betelgeuse and Gamma Oroinis are supposed to mark the shoulders of the giant hunter. Three third magnitude stars in a line form the belt which is sometimes called the celestial yardstick, because it is three degrees in length, and may be used as reference in determining measurements on the celestial sphere.

The sword pendant from the belt is formed by a line of two fourth, and one third magnitude stars. The middle star, Theta Oronis is a multiple star surrounded by the celebrated nebulæ of Orion, a beautiful object in the field of a telescope on a dark, clear night. A line passed through the belt, lengthwise, and extended downward passes near Sirius, in Canis Major, the brightest star in all the heavens. Jupiter and Venus alone of all the planets, when at their best, surpass Sirius in brilliancy. East of Betelgeuse is Procyon, a first-magnitude star in Canis Minor. North of Procyon are two bright stars, Castor and Pollux of the Gemini. At present Sirius does not come into view early in the evening, but before the close of the month it will be found in our eastern sky at an early hour.

Mercury will be invisible most of the month, but may be found for a few mornings near its close in the Eastern sky. Venus may now be seen for a short time in the evening toward the southwest, when the view of the western horizon is unobstructed, and the sky is especially clear. Before the close of the year she will be an object of beauty in our evening sky. Mars is still hiding behind the sun, and will be invisible during December. Jupiter has escaped from the immediate vicinity of the sun, and is now the brightest star in the eastern sky in the early morning. Saturn will be too near the sun to be easily seen until after the beginning of the new year. The sun will reach his greatest southern declination 23° 27′ Dec. 22, and from that date he will slowly begin his journey toward the north. Dec. 22 at 8 o'clock in the evening winter begins.

Dec. 31 the earth will pass the perihelion point in her orbit and will then be only 90,830,855 miles distant from the sun, 3,120,000 miles nearer then on July first. The night is still encroaching on the day, but it is encouraging to know that on Dec. 18 the sun will set one minute later, and at the close of the year there will be eight minutes more of daylight in the evening.

Three groups of small spots came into view by rotation during the last month, and each group disappeared before completing the transit of the sun. At present the face of the sun is without a spot.

Toledo, O. D. SATTERTHWAITE.

VISIBLE SUPPLY OF GRAIN

As compiled for THE MARINE RECORD, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo	1,503,000	924,000	996,000	208,000	1,442,000
Chicago	14,789,000	2,564,000	945,000	365,000	57,000
Detroit	728,000	202,000	218,000	10,000	33,000
Duluth	6,262,000	103,000	187,000	339,000	347,000
Fort William, Ont.	1,663,000	.....	.....	.....	.....
Milwaukee	183,000	.....	2,000	9,000	.....
Port Arthur, Ont.	131,000	.....	.....	.....	.....
Toledo	1,837,000	901,000	502,000	8,000	.....
Toronto	44,000	.....	130,000	.....	4,000
On Canal	158,000	95,000	.....	.....	126,000
On Lakes	3,174,000	278,000	697,000	....	983,000
Grand Total	55,778,000	11,712,000	6,311,000	1,363,000	3,775,000
Corresponding Date, 1898	24,115,000	20,362,000	5,544,000	1,024,000	3,840,000
Increase	.....	140,000	394,000	.....	219,000
Decrease	158,000	.....	.....	135,000	.....

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

WHEN COAL GIVES OUT.

Gunton's Magazine discusses in an airy and pleasant manner, the question, "What will the world do for a substitute when coal gives out?" "Are we utterly dependent upon coal, so that the wheels of industry will stop and the forests be consumed for fuel when coal gives out? Of course not. It is an idle fear. Already we have the beginnings of a new method of utilizing natural energy which will prove enormously more effective than coal ever has been, and will be practically inexhaustible, to whatever extent industry may expand. Electrical energy, developed by water power, will run the world's industries, furnish its light and heat, and be the universal substitute for all forms of combustion methods. Water power is practically unlimited, and it will be utilized more and more in proportion as the need for it arises and as its use becomes, at different places and at successive periods, cheaper than coal. The substitution will proceed gradually, until, when the coal supply finally is exhausted, nobody will have anything more than a curious or academic interest in the matter, and probably not a ripple will be produced in the steady onward flow of the world's industry. As the use of water power to develop electrical energy increases to the point of formidable competition with coal, electrical students and inventors will doubtless bring out improvements making it possible to store the power or conduct it long distances at small cost, until our factories, railroads and ships can be operated by it, our houses lighted and warmed and food prepared, all at less expense than it is possible today with coal."

However, seeing that there is probably enough coal left to "run" the world for about 3,000 years, we of "this day and time" may leave the solution of the problem its exhaustion will raise, to those who will be directly interested.—The Tradesman, Chattanooga, Tenn.

LAKE LEVELS.

Mr. George Wisner, civil engineer, Detroit, and a member of the deep waterways commission, gives it as his opinion that within the past three or four years the current in the rapids at the foot of Lake Huron has been gradually growing less. He says that the slope from Lake Huron to Lake Erie has undergone modifications from earlier conditions so that it is a foot less fall between those two lakes then it was 10 years ago. Mr. Wisner says that it is a well known fact that the river is engaged in scouring itself a deeper channel through the rapids. He says that in 1873 and 1886 there was 48 feet of water at this narrow point in the river, but this has been increased and for the past few years there has been 66 feet of depth. Mr. Wisner says:

The official surveys show that the cross section of the river at that point has been increased from 30,000 square feet to 36,000 square feet, while the quantity of water discharged through the orifice remains the same. That is to say, the out let of the lake is 20 per cent. larger and the same amount of water goes through the large opening that formerly went through the smaller one. Therefore it does not require so high a velocity to get the water through as formerly. The discharge is approximately 190,000 cubic feet per second. A very trifling computation shows that this means a diminution in velocity of a foot per second, or 360 feet per hour, a very preceptible change.

But another observed difference resulting from this scouring out of the outlet of the lake is that the whole profile of the waterways from Lake Huron to Lake Erie has undergone modification, not a large one, but one worth taking account of. Before these changes began, there was almost exactly 5 feet and 9 inches difference in level between Lake Huron and Lake St. Clair, and about 3 ft. and 6 in. difference between the levels of Lake St. Clair and Lake Erie. The latest observation indicates that the fall in levels from Lake Huron to Lake St. Clair is now almost exactly 5 feet, and the fall in the Detroit river has diminished by a very small fraction of a foot, less than three inches. The total change from Lake Huron to Lake Erie is said to be under 8 feet and 4 inches, which is one foot less than formerly. It would be a moderate estimate to say that the engine of a tow does 20,000 less foot-tons of work now in passing from Lake Erie to Lake Huron then formerly, on account of the change in levels alone, and there is the gain from a slower current besides. Of the fall between Lake Huron and Lake St. Clair, the greater part, fully one-third, is in the short stretch between the lake and Port Huron and by the changes noted the greater part of the change of levels is in the same stretch, amounting to nearly three-fourths of the whole change in the St. Clair river.

WHY NOT?

A Chicago exchange states as follows:

"It is understood that subscriptions to the capital stock of the Buffalo Dry Dock Co., which has purchased the Mills' dry dock plant at Buffalo, are being paid in, and the new company will soon be in possession of the works, with plans already outlined for extensive improvements. Names connected with the new company as prominent stockholders include Robert R. Rhodes, of Cleveland; Edward Smith, of Buffalo, and members of the firm of Charles E. & W. Peck, of New York, who have been extensively interested of late in insurance on the lakes. The formal organization has not been effected, so that the list of officers, if decided upon, has not as yet been given out.

"In the Lowrey Memorandum of a year or two ago it was made a charge against shipowners that they were interested financially in dry dock concerns, but if the above information is correct, we have here the case of leading marine insurance people on the American lakes, Messrs. Peck, becoming 'prominent stockholders' in the Buffalo Dry Dock Co. It is, of course, quite within the discretion of Messrs. Peck as it is within that of any shipowning firm, to invest in a dry dock, or any other company. Still, it would be interesting to know if, and why, in the opinion of the author of the Memorandum, it is wrong for shipowners, but right for marine people (underwriters, brokers, and others), to be interested in dry dock enterprises."

Seamen—Lien of Fishermen—Voyage on Lays—Fishermen are seamen, and except as modified by their peculiar contracts, express or implied, are protected by the law as other seamen are, and for their wages may look to the vessel, her master, and ordinarily her owners. The Carrier Dove, 97 Fed. Rep. (U. S.) 111.

MARINE RECORD

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CANADIAN COASTING LAWS.

Notwithstanding the complaint set up by Canadian vessel owners as a result of the recent action of the Dominion Government in suspending the coasting regulations on the lakes, which prevented American vessels carrying grain between Canadian ports, it is a fact that this move has resulted in Canada securing a great deal of business that would otherwise have gone to Buffalo or other ports in the United States. This is admitted by the grain merchants of Montreal even within the few week that have escaped since the government order was issued.

The coasting laws of Canada are similar to those of the United States: they keep the coasting trade of the country exclusively for the national vessels. But though this has been the law in Canada for years it has not had its expected effect of building up a large lake marine. The Canadian tonnage on the lakes, amounting to practically nothing as compared with the great fleet of American vessels, has steadily decreased in the last dozen years and of late years the only effect of coasting laws has been to deflect the Canadian wheat trade from Canadian ports, especially towards the close of navigation when grain shipments are very active. There not being enough Canadian vessels to transport the wheat American steamers had to be called in, and as they could not carry it to a port on the Canadian side of the lakes they had, perforce, to go to Buffalo.

This year the Dominion Government, by order in council, suspended the regulations for the closing part of the season. This was greeted with an outburst of criticism and the government was accused of surrendering valuable privileges to the United States without compensation, and so forth, but the sequel has shown the success of the move. American steamers are now delivering large quantities of wheat at Midland, Collingwood and Depot Harbot on Georgian Bay, and this grain is being carried to Montreal by the Canadian railroads. Montreal merchants are holding large stocks of Manitoba wheat and are in daily receipt of orders for it for export. The success of the experiment has been so great that Canada's coasting regulations will probably hereafter be a dead letter on the lakes during the grain shipping season, though they will remain on the statue books and be enforced at other times.

The total of the estimates submitted by Secretary Gage is $631,081,994, whieh is $38,033,616 greater then the estimates of the present year, and $34,234,034 in advance of the appropriations actually made. Most of the departmental estimates have been kept down to the linit of this year's appropriations, if not cut below it, but the War Department asks an increase of $27,000,000, the Navy Department one of $24,000,000, and the Interior Department one of $7,000,000. Of the War Department increase, $10,000,000 is for rivers and harbors alone.

editorial

THE annual report of the Secretary of the Navy is a document of unusual interest, dealing not only with the work of the navy during the past year and important recommendations for the future, but also discussing the more important questions relating to the navy, including the authorization of eighteen new warships, the imperative need of special legislation in the early days of Congress for armor of the best quality that can be obtained and the proposition that the thanks of Congress be given to the commander-in-chief of the North Atlantic squadron and to the officers and men under his command for the part they took in the naval operations at Santiago. These larger items of the report received extended attention at the hands of Secretary Long. As to the increase of the navy, he says: "The number of large, swift and powerful armored cruisers of great coal endurance in our navy is largely disproportionate to the rest of the navy establishment. The experience of the last year has also shown the need of several smaller vessels usually classed as gunboats. It is, therefore, recommended that Congress be requested to authorize the construction of the following vessels: First—Three armored cruisers of about 13,000 tons trial displacement of a maximum draft at deep load not to exceed 26 feet, carrying the heaviest armor and most powerful ordnance for vessels of their class, to be sheathed and coppered and to have the highest practicable speed and great radius of action. Second—Twelve gunboats of about 900 tons trial displacement, to be sheathed and coppered; and, third, as recommended a year ago, three protected cruisers of about 8,000 tons trial displacement, carrying the most powerful ordnance for vessels of their class, to be sheathed and coppered and to have the highest practicable speed and great radius of action. The Secretary asks that if satisfactory bids can not be secured for the new ships, authority be given to build them at the United States navy yards. The Secretary gives a table showing naval construction going on abroad as compared with that in the United States. From this it appears that only Italy and Japan laid down less tonnage than this country during the present year and that Italy alone had less tonnage under construction. The total tonnage under construction is: England 531,680; France, 255,533; Germany, 148,235; Italy, 120,540; Japan, 130,000; Russia, 222,976, United States, 123,236.

MEMBERS of the New York State Commission on Commerce and Transportation, who visited Chicago and other Western cities to secure testimony from prominent shippers regarding the decline in New York's commerce and the best means whereby the State can regain its lost trade, have completed their investigation. Alexander R. Smith, secretary to the commission, when asked as to the details of the trip, stated: "Considering the attitude assumed by the trunk line railroads, it was the unanimous expression of Chicago shippers that the salvation of New York's commerce rested upon the manner of the State's improvement of its canals. It was also suggested that the railroads, differential against New York and the lighterage and other port charges with the City of New York, should, if legislation could be devised to that end, be largely reduced, if not wiped out. The consensus of opinion seemed to be that unless the Erie canal were so enlarged as to accommodate boats of 30,000 bushels' capacity, the improved Canadian canals would steadily increase the exportation of grain via Montreal and Quebec.

THE "Soo" river again blockaded by the Siemens and the St. Clair canal by the Fritz, both casualties happening within the week, points out how easy it is to stop lake traffic. There are also other points where similar casualties might occur. The preventative is to have two channels, to be ordinarily used for up and down bound boats. A prominent Cleveland vessel owner has been a strong advocate of this improvement for many years past, and his views are more pertinent now than ever.

COLLINGWOOD, Ont., has voted to grant a bonus of $50,000 to the proposed steel shipyards of which Capt. Alex McDougall, of Duluth, and Messrs. Thomas and J. J. Long and Chas. Cameron, of Collingwood, are the promoters. Work will at once be commenced on the construction of the yards.

In past seasons it has been customary for the underwriters to grant trip rates on grain but now they are set against any more winter navigation. It cost them too much a year ago to be forgotten.

RIVER AND HARBOR IMPROVEMENTS.

Following include river and harbor improvements estimated for under continuing contracts, where the sum asked for is $100,000 or more: Buffalo harbor, $116,661; Buffalo entrance to Erie basin and Black Rock harbor, $198,113; Ashtabula harbor, Ohio, $150,000; Black river harbor, Ohio, $150,000; Cleveland harbor, $400,000; Toledo harbor, $200,000; Michigan City harbor, Ind., $195,000; Calumet, Ill., harbor, $300,000; St. Joseph, Mich., harbor, $330,000; harbor of refuge, Sand Beach, Mich., $200,000; Kenosha, Wis., harbor, $141,000; harbor of refuge, Milwaukee bay, $105,000, Duluth and Superior harbor, $837,000; Chicago river, $137,000; Illinois and Mississippi canal, $1,000,000; Detroit river, $300,000; Hay Lake channel, St. Mary's river, Mich. $294,115; waterway from Keweenaw bay to Lake Superior, Mich., $175,000.

The total appropriations asked for on account of river and harbor improvements under continuing contract system is $15,582,626, an increase of nearly $10,000,000 above present appropriations. Under the Missouri river commission $1,000,000 is asked for, and under the Mississippi river commission $3,000,000.

Also the following river and harbor improvements: Grand river, Mich., $100,000; Kalamazoo river, Mich., $135,000; Oswego N. Y., $100,000; Tonawanda harbor and Niagara river, N. Y., $100,000; Erie, Pa., $150,000; Cleveland, $160,300; Conneaut, Ohio, $100,000; Fairport, Ohio, $100,0000; Sandusky, $105,000; harbor of refuge at Milwaukee bay, $119,000.

Fixed aids to navigation to cost over $10,000 each include: Light and fog signal station at Fisherman's Shoal, Wis., $50,000; same at Pointe aux Barques, Mich., $32,000; Peshtigo Reef, Wis., for light vessel, $15,000; light and fog signal station on Chapman shoal, St. Lawrence river, $25,000; same Toledo harbor, Ohio, $37,500; same Middle Island, Lake Huron, $25,000; same Crisp's Point, Lake Superior, Mich., $18,000; Rock of Ages, Isle Royale, Lake Superior, $50,000; moving light from Eagle river to Sand Hills, Mich., $20,000.

TO ABROGATE THE TREATY.

Congressman Burton, of Cleveland, has introduced a resolution in Congress requesting the President and Secretary of State to enter into negotiations with Great Britain which shall have as their object the abrogation of the provision of the treaty negotiated in 1817 by that government and the United States which prohibits the construction of warships on the Great Lakes. The resolution was referred to the Committee on Foreign Relations and Mr. Burton expects a favorable report.

The section of the treaty referred to provides that each of the two nations shall have but one war vessel on the Great Lakes of not more than ninety or one hundred tons burden. It has been observed by both countries, but the time has come in the opinion of Mr. Burton and other members of Congress for its annulment. Some of the largest shipbuilding plants in the United States are located on the lakes, and Mr. Burton, like many of his colleagues, believe that they should be given an opportunity to construct some of the ships of war which the Federal Government is adding to the navy.

The shipbuilders along the lakes, Mr. Burton says, are heartily in favor of the abrogation of this section of the treaty. If the negotiations which the resolution offered calls for are concluded in the manner desired there is no doubt that many of the gunboats and light draft cruisers which will be added to the navy in the future will be built on the lakes. Vessels of at least fourteen feet draft can now be floated from the lakes to the seaboard through the St. Lawrence system of canals, and in this class can be included torpedo boats, torpedo boat destroyers and the other armored vessels specified. In speaking of his resolution Mr. Burton said there was some doubt in his mind as to whether the provisions of the treaty which he desires to have abrogated is really binding on the two parties to the agreement, although the Navy Department has ruled that it is.

LIFE SAVING SERVICE.

The annual report of the life saving service for the fiscal year ended June 30 shows that there were 263 disasters on the Great Lakes during the year, involving vessels valued at $2,856,830, and cargoes with a total valulation of $720,550. There were 1,454 persons on these vessels when they were wrecked, of whom only 3 lost their lives. The value of property saved was $2,909,225, and of property lost $668,155. Nine of the disasters reported involved no loss of vessels.

"SOO" RIVER NAVIGATION.

United States engineers in charge of the Government work on St. Mary's river have predicted that sooner or later there would be a wreck which would block the entire commerce of Lake Superior. The deep water channel is so narrow and crooked that such an accident was almost certain to occur.

The places most dreaded by navigators are the Little Rapids, just below Sault Ste. Marie, where the North Star, the Siemens and the Holley lately grounded; the Sailors' Encampment, twenty miles further down, where the Douglass Houghton sank Sept. 5, and half way between these two, the Middle Neebish.

At the Little Rapids the Federal Government has made a deep cut through from the old steamer channel to Hay Lake, shortening considerably the route from Lake Superior to Lake Huron. The cut is narrow and the current is rapid, so that great care is necessary in navigating it. On the other hand, it has the advantage of being straight and nearly in a line with the course down Hay Lake, and in that respect it is safer than either of the other two danger points.

At Sailors' Encampment the channel makes a sharp turn around a point, on the end of which the Government has created a signal station for the purpose of warning vessels coming up the river when others are going down. By this means the chances of collision are somewhat lessened, but the feud at the Encampment is still a very dangerous place. The wreck of the Hougton was due to the breaking of her steering gear, which allowed her to swing across the channel, exposing her starboard side to the blow of her consort. But even if this accident had not brought on the blockade it is altogether probable that a collision would have occurred sooner or later, for the channel is only 300 feet in width, and the current is quite rapid, though less so than at the Middle Neebish.

The West Neebish is at present too shallow and swift to be navigable, but the engineers propose to deepen it and thus make two parallel waterways, the new and the old, one of which can be used by vessels bound up and the other by vessels bound down. The danger of collision would be practically eliminated as far as this part of the river is concerned, and in case one channel was blockaded by the stranding of a steamer the other could be temporarily used by craft bound both ways, with no greater risk than at present.

This would not, of conrse, help matters at the Little Rapids, and the only practicable improvement of that portion of the stream would seem to be the widening of the channel to such an extent that a complete blockade would not be possible, even by the sinking of the longest vessel on the lakes.

With these improvements, the widening of the Hay Lake cut and the opening of the West Neebish, St. Mary's river would be practically free from danger of blockades. The expense would be heavy, for a great deal of dredging and excavating would be necessary at both places, but the marvelous growth of the commerce of Lake Superior in the last few years, and especially during the last season, would fully justify the outlay.

EASTERN FREIGHTS.

Messrs. Funch, Edye & Co., New York, in their weekly freight report to the RECORD state as follows:

The usual small list of fixtures during this week will show the very unsatisfactory state into which business from this coast has fallen, unfortunately too, with no visible prospects of a prompt turn for the better. The list of steamers taken for grain cargoes exhausted the orders at present on the market, hence charterers could practically dictate their own terms in respect to rates. There is no enquiry for cotton boats from the Atlantic ports, and for general trades the enquiry is distinctly limited. Some probability exists of further fixtures for timber from the Gulf ports, but here, too, the enquiry is not brisk, and advanced rates unlikely to be conceded.

The market for sailing vessels has been unusually quiet, and, with no addition of consequence to the list of open tonnage, rates have not undergone any quotable change.

"SOO" RIVER RULES.

A petition is in circulation among vessel-owners and is being generally signed, to the effect that all down-bound barges in the Soo River be compelled to take tugs in the dangerous parts of the river. Great losses incurred from the sinking of the Douglass Houghton and the stranding of the Siemens has led to this appeal to the War Department to protect the channel to Lake Superior. The losses from the detention of 140 vessels in the Soo passage at the critical time when last trips count for so much led to the resolution among vesselmen to secure protection against similar accidents in future. The rules of the road in the navigation of the Soo River have tended largely to decrease the danger from detentions but they do not meet fully the requirements. This has led to the demand for fuller Congressional enactments.

It is stated that energetic action will be asked to prevent a recurrence of these disastrous blockades of the channel. One plan is to have tugs at the end of every barge tow. Another plan is to provide heavy penalties for attempting to pass in the narrow channels. It is admitted that something must be done for the interests of navigation. The losses from the two blockades this season will greatly exceed $1,500,000.

GRAIN SHIPMENTS FROM DULUTH.

The grain shipments from Duluth during the season of navigation to December 1, this year, were 63,384,992 bushels, as compared with 65,154,255 bushels for the same period in 1898. The shipments in December last year raised the grand total for the season of navigation to 72,459,275 bushels. Nearly 7,000,000 bushels of wheat and 1,214,425 bushels of coarse grain were shipped in December last year.

The shipments of wheat to December 1, this year, have been 40,367,988 bushels, as compared with 45,959,815 bushels on the same date last year. Corn shows a big increase. The shipments this year were 8,264,053 bushels, as compared with 3,375,321 bushels last year. Oats show a decrease, 2,811,475 bushels this year, as compared with 5,187,356 bushels last year. Rye shows a decrease, 801,636 bushels, as compared with 1,716,811 bushels last year. Barley shipments this year were 3,008,728 bushels, as compared with 3,425,283 bushels last year.

The shipments of flax go a great way toward making up the decrease in other grains. The shipments were 8,131,112 bushels to December 1, as compared with 5,489,669 bushels last year on the same date.

TRAFFIC THROUGH THE ST. MARY'S FALLS CANALS.

STATISTICAL REPORT OF LAKE COMMERCE THROUGH CANALS AT SAULT STE. MARIE, MICHIGAN AND ONTARIO, FOR THE MONTH OF NOVEEBER, 1899.

EAST BOUND.

ITEMS.	U. S. Canal.	Canadian Canal.	Total.
Copper, net tons	16,478	350	16,828
Grain, bushels	4,472,023	10,000	4,482,023
Building stone, net tons	4,611	.....	4,611
Flour, barrels	929,548	60,935	990,483
Iron ore, net tons	1,601,612	166,047	1,767,659
Iron, pig, net tons	2,799	.....	2,799
Lumber, M. ft. B. M	121,342	488	121,830
Silver ore, net tons	487	.....	487
Wheat, bushels	9,426,098	1,864,436	11,290,534
Unclassified freight, net tons	9,693	2,421	12,114
Passengers, number	415	518	933

WEST BOUND.

ITEMS.	U. S. Canal.	Canadian Canal.	Total.
Coal (hard), net tons	116,204	16,200	132,404
Coal (soft), net tons	295,093	71,398	366,491
Flour, barrels	.....	.....	.....
Grain, bushels	.....	4,000	4,000
Manufactured iron, net tons	30,337	363	30,700
Salt, barrels	25,092	10,080	35,172
Unclassified freight, net tons	71,202	9,309	80,511
Passengers, number	193	454	647

East bound freight, net tons		2,576,421
West bound freight, net tons		615,378
Total		3,191,799
Total craft through United States canal	1,863	
Total craft through Canadian canal	389	
		2,252
Total registered tonnage through U. S. canal	2,349,302	
Total registered tonnage through Canadian canal	325,809	
		2,675,111

A story is told of the editor of a go-ahead evening newspaper, who, in the eternal rushing to press to get ahead of his rivals, was continually impressing upon his reporters the necessity of condensing all news. On one occasion a terrible boiler explosion had taken place on board a big ship lying at Portsmouth. "Get down there as fast as you can," he said to one of his men; "if you catch the 11.40 you will be there soon after 2, and you can just wire something for the extra special—but boil it down." Soon after 3 o'clock that afternoon they got this telegram from him: "Terrible explosion. Melpomene. Boiler empty. Engineer full. Funeral to-morrow. No Flowers."

STARTING AND STOPPING STEAMERS.

An interesting experiment in ascertaining the time it takes to start and stop a steamer was carried out this week.

The Merida, a steamship of 2,609 tons, 260 feet in length, 45 feet beam and with a depth of 21 feet, obtained the maximum speed of 14 miles per hour. The full power of the screw was exerted in stopping the vessel by backing, and from the time it was at full speed until the Merida lay motionless in the water was exactly two minutes.

An order was then given to get under full headway as soon as possible. From the time the propeller started until the Merida was again moving through the water at a speed of 14 miles per hour, as shown by the log, was exactly three minutes. "I was somewhat surprised at the result of the experiment," says Capt. Ivers. "I had always supposed that it would take longer to stop than it would to start, but my experience shows just the contrary."

Of course the form of the hull, power of engines, weather conditions, depth of water, and many other features would have to be considered in forming an average table, but the experiment for this type of cargo steamers when steaming in still water is interesting and valuable.

LETTERS AT DETROIT MARINE POST OFFICE.

DECEMBER 6th, 1899.

To get any of these letters, addressees or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter, giving the date of this list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

Anderson, Andrew, Buckout.
Ackley, John P., Marshall.
Boyle, H. A., Havana.
Burnett, James, C. A. Eddy.
Bentley, Frank.
Baxter, W. F., Cumberland.
Beckers, Mrs. M. E., Eda Connor.
Cochrane, Capt. J., Marion.
Carlson, G. A., Thompson.
Culey, Geo. B., Bradley.
Collins, John.
Clark, W. G.
Franklin, John.
Frank, Charlie, Gettysburg.
Freese, C. A., Nyanza.
George, C. R.
Grant, C. C., M. T. Downing.
Hornbeck, F.L., 2, Montana.
Hall, John B., Roumania.
Halborn, G. Cumberland.
Jones, Elmer J., J. F. Eddy.
Johnson, John, A. H. Green.
Keith, G. A., H. E. Packer.
Kannes, W. H.
Kilday, Hugh, Cumberland.
Likins, Fred.
Leslie, D. T., D. D. Calvin.
Morgan, C. J., Castalia.
MacDermott, Harry.
Nelson, J. M.
Owen, Ernest.
Parks, Miss S. M., Saturn.
Potter, Miss Anna.
Purcele, Billy, Baltic.
Parrott, Mrs. Joseph.
Rowland, W. A., Burlington.
Regal, Charley, G. Stephenson.
Rabadue, Capt.
Ricry, E. G., Rees.
Smith, Thos. H., Eureka.
Slocum, Wm.
Solon, John F.
Signor, Leon.
Simmons, James.
Stone, John.
Soden, John, Roman.
Tanner, Chas. F.
Turcott, Willie.
Tullock, William.
Vernor, C. E.
Webb, Edward.
White, Will, I. J. Boyce.

The administration of the Bureau Veritas has published the list of maritime disasters reported during the month of September, 1899, concerning all flags, as follows: Sailing vessels reported lost—16 American, 1 Austrian, 21 British, 2 Chillian, 2 Danish, 1 Dutch, 2 German, 2 Greek, 4 Italian, 19 Norwegian, 3 Russian, 1 Sweedish, total, 74. In this number are included four vessels reported missing. Steamers reported lost—1 American. 1 Austrian, 1 Belgian, 16 British, 1 French, 2 German, 1 Japanese, 1 Mexican, 2 Norwegian, 4 Russian, total, 30. In this number are included three steamers reported missing. Causes of losses: Sailing vessels—stranding 32, collision 4, fire 1, foundered 7, abandoned 8, condemned 18, missing 4, total, 74. Steamers —stranding 9, collision 3, foundered 4, abandoned 1, condemned 10, missing 3, total, 30.

Secretary Long has settled the long pending controversy over the awards of the six 3,200-ton unprotected cruisers for which bids were opened at the Navy Department on Nov. 1. The delay in making the contracts was mainly due to the question whether a New York firm was competent to undertake the work, the next lowest being Neafie & Levy, of Philadelphia. It was shown the firm had the necessary plant, but in the awards it failed to secure a vessel. The following firms will each build one of the vessels on the Department's plans: Trigg & Co., of Richmond; the Bath Co., Lewis Nixon, the Union Iron Works, the Fore River Co., of Massachusetts, and Neafie & Levy, of Philadelphia. Thirty months is the period allowed for the completion of the vessels.

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WEATHER BUREAU REPORT.

The annual report of Prof. Willis L. Moore, chief of the United States Weather Bureau, deals largely with the work of the Bureau in announcing the tempestuous weather of the closing months of 1899, and in the exploration of the upper air by means of kites and cloud observations. No destructive marine storm occurred without the danger warnings of the bureau preceding the storm.

Probably the most severe storm within the memory of the living swept along the Massachusetts coast on Nov. 26-27, 1898, entailing a loss of at least 200 lives and many vessels. Hundreds of craft sought a safe anchorage on the advices of the Weather Bureau.

An important change in the forecast work of the bureau was the extension of the usual time limits of the night forecasts from 36 to 48 hours.

The only hurricane in the West Indies during the season 1898 followed closely the establishment of the stations in that region. Hurricane warnings were cabled to Weather Bureau stations in the Lesser Antilles on Sept. 10 in advance of the storm. At Barbados 83 persons were killed, 150 injured and property of the estimated value of $2,500,000 was destroyed.

In the West Indies the work of establishing a storm warning service was prosecuted under very great difficulties.

The West Indian service was instrumental in giving advance warning of a hurricane that struck our south Atlantic coast on October 2. The coming of this storm was successfully announced and sailing vessels valued at $380,000 were held in port until the danger had passed.

Climate and crop services have been established in both Cuba and Porto Rico, and the organization is far enough advanced on both islands to issue weekly and monthly bulletins giving the condition of the crops as affected by the weather.

WRECK AND CASAULTY REPORT FROM OCTOBER 16 TO NOVEMBER 15, INCLUSIVE.

By NORMAN B. CONGER, Local Forecast Official and Marine Agent.

1. October 24.—Schooner H. H. Badger stranded near Menominee during heavy weather; reported a total loss; no lives lost; estimated loss on vessel, $3,000; cargo of ties, $1,500; total, $4,500.

2. November 1.—Schooner W. H. Dunham stranded during heavy weather near Aral; no lives lost; estimated loss on vessel, $500; cargo, $1,500; total, $2,000; vessel released.

3. Schooner Kate Lyons stranded near Grand Traverse Light during heavy weather; estimated loss on vessel, $3,000; cargo, $1,500; total, $4,500.

4. November 2.—Schooner yacht Chiquita stranded during heavy weather near Millers Station, Ind., and became a total loss; three lives lost; estimated value of vessel, $500.

5. Schooner Elgin sprung a leak and lost deck load of lumber during heavy weather off Milwaukee; estimated damage to vessel, $500; cargo, $1,000; total, $1,500.

6. Car ferry No. 4 sprung a leak off Racine during heavy weather; damages nominal.

7. Steamer Penobscot was caught in heavy weather on Lake Superior and had pilot house carried away and cargo damaged; estimated damage to vessel, $1,500; cargo of grain, $3,000; total, $4,500.

8. November 3.—Schooner Rival sprung a leak and was beached to prevent foundering during heavy weather; estimated damage to hull, $500; cargo, $250; total, $750.

9. Steamer John Mitchell stranded at Bar Point during low water caused by heavy westerly winds, estimated damage to vessel, $1,500; released.

10. Steamer Vulcan stranded at Bar Point during low water caused by heavy westerly winds; estimated damage, $1,500, released.

11. November 5.—Small schooner Rough and Ready capsized and drifted ashore at Gros Cap during heavy weather; estimated damage to vessel, $100.

12. Steamer Edward S. Pease collided with the dock at Ashtabula, while entering harbor during heavy weather, and sunk; estimated damage to vessel, $10,000, will be raised and repaired.

13. November 7.—Steamer Oglebay stranded at Stagg Island during dense fog; estimated damage to vessel, $2,500; released.

14. November 15.—Steamer Conestoga collided with the waterworks crib, Chicago, during dense fog, stove a hole in her bow, and sunk in the harbor; estimated damage to vessel, $15,000, cargo, $40,000; total, $55,000; will be raised.

Comparing the above record of losses from stormy weather, fog, or smoke with that of the corresponding period last year, viz., October 16 to November 15, it appears that there have been fewer storms this season than last and about the same amount of fog. Last season there were reported 53 vessels which were more or less damaged; this season, 14; last season, the total losses amounted to $499,934; this season, $5,000; the total amount of losses from weather conditions last season was $624,534, and this season the amount was $88,850; there were 31 lives lost last season and 3 this.

TREASURY DECISION.

TREASURY DEPARTMENT,
STEAMBOAT INSPECTION SERVICE,
OFFICE OF THE SUPERVISING INSPECTOR GENERAL,
WASHINGTON, D. C., NOVEMBER 21ST, 1899.

U. S. Local Inspectors, Duluth, Minnesota.

GENTLEMEN:—Referring to your letter, of the 7th inst., in which you ask "if a decision can be legally rendered as the result of an investigation of a collision without the signatures to testimony of all the witnesses who have testified in the case," I have to inform you that your letter having been referred to the Solicitor of the Treasury for his opinion, the Acting Solicitor, Mr. F. A. Reeve, in reply, in letter dated he 13th inst., after referring to and quoting Section 4450, Revised Statutes, under which investigation by licensed officers is held says that, "The statutes make no provision for taking the testimony in this class of cases in any other manner 'than orally.'"

"The employment of a stenographer, is only done by consent of the Department and for the purpose of facilitating the investigation."

"The law does not contemplate that * * * the respondent, or any other party shall have a copy of the testimony taken in these cases."

Upon this state of facts, and the law bearing on the same, I am of opinion that, in trials of licensed officers in such cases, the witnesses' signature to the testimony, when taken by a stenographer is not material, and its absence cannot affect the legality of any findings made by the board of local inspectors in this case."

You will govern yourself in accordance with the above quoted decision hereafter in all cases of investigations under Section 4450, Revised Statutes. Respectfully, Signed,

JAS. A. DUMONT, Supervising Inspector General.

CHICAGO PNEUMATIC TOOL CO.

We are in receipt of the following communication:

CHICAGO Nov. 29, 1899.

MARINE RECORD, Cleveland, O.

We wish to notify our customers all and the trade in general that all patent litigation entered into between Chicago Pneumatic Tool Co. and Joseph Boyer, the Standard Pneumatic Tool Co. and the Chouteau Manufacturing Co., have been dismissed.

By the advice of their respective attorneys, they recognizing that the Boyer and Chouteau patents cover the fundamental principles of all pneumatic hammers, without the combined use of which no successful pneumatic hammer can be made.

Recognizing the value of the respective claims, they have purchased licenses from each other covering their present style of hammers. We consider this action necessary for the protection of the users of our respective tools.

This, as you will note, removes all annoyance to our customers from infringement claims and we believe this item will be of interest to your readers, and we therefore ask that you give it the same publicity as previously given to the announcements of suits brought.

Yours respectfully,

CHAS. BOOTH.

Chicago Pneumatic Tool Co., by J. W. Duntley, President.
Standard Pneumatic Tool Co., by Edward N. Hurley, Pres.

J. P. V. GRIDLEY, son of the late Capt. Gridley, has been designated by the President for appointment to the Marine Corps. Gridley is too old to enter Annapolis, and the only opening for him was an appointment in the Marine Corps. It appears, however, the young man lacked the qualifications, and, worse than all, money to fit himself for the examination. He appealed to Admiral Dewey, who said: "Meet me at the White House." The President's door was at once opened. Admiral Dewey started to explain the situation, when the President spoke up and said: "You and I, Admiral, will pay his expenses in preparing for an examination in the Marine Corps. If he fails in the first examination I will give him another chance, but I am sure he will be ready for examination when he is appointed." On leaving the room with young Gridley the Admiral was heard to tell the boy to come to him for what he needed and that all of his expenses would be cared for.—Army and Navy Journal.

AN invention has been tested at Weymouth, England, for steering any craft, whether submerged or otherwise, by means of an ether wave, on the wireless telegraph principle. The model was subjected to a variety of tests and followed the current wave as surely as if guided by a rudder. In addition to steering in straight lines, various figures were described. If further tests are successful, it is likely the system will be adopted by the British Admiralty. Its effect on modern warfare would be inestimable, as it is asserted that the system cannot only be applied to torpedo and other craft, but can be attached to mines and other destructive agencies, firing them without visible means at any object or position desired.

SUSPENSION OF LICENSES.

Investigation of cause of collision between the steamer James B. Neilson and tug Record, which resulted in the sinking of the Record and drowning of Henry Ellis, one of the tug's firemen.

From the evidence in this case it appears that the tow-line of the James B. Neilson was given to the tug Record outside Duluth Harbor shortly after five o'clock a. m., October 8th, 1899. The Neilson was propelled by her own power, the tug keeping ahead with a strain on the tow-line. They proceeded into the harbor and up to the bend in the channel at the Ohio coal dock at a speed of between four and six miles an hour. After the turn was made at the Ohio coal dock the tug was checked, but as the tow-line, which was short, would slacken with increase of speed of the Neilson the engineer on the tug would increase his speed sufficient to keep the line tight without signals from the pilot. The speed of the tug was gradually increased in this way until she was working with the throttle of the engine wide open, and having between 100 and 110 pounds of steam. When they were about 2,500 feet past the bend, or about opposite the new elevator, the Neilson ran upon the stern of the Record, rolling her down until she filled with water and sunk.

It is claimed by witnesses on the tug that they were running about eleven miles an hour when the collision occurred, and by those on the Neilson that their speed did not exceed five miles an hour.

The evidence shows, however, that the Record was run, ning at full speed for some time before the Neilson ran into her, which is not disputed. It is therefore evident that the Neilson was running faster than the Record could run. Under these circumstances the Neilson was not navigated with great caution as is required by Rule VI, of the pilot rules. For violation of this rule the license of William J. Hunt, master and pilot of the steamer James B. Neilson, is suspended for a period of one year, commencing Dec. 12th 1899, and ending Dec. 11th, 1900.

William C. Burnett, pilot of the tug Record, is guilty of negligence in failing to blow a danger signal to the Neilson; violation of Section 4450, Revised Statutes, and his license as master and pilot is suspended for a period of four months, commencing Dec. 12th, 1899, and ending April 11th, 1900.

Signed, { JOHN MONAGHAN, MICHAEL F. CHALK.

U. S. Local Inspectors, Duluth, Minn.

THE CANADIAN CANALS.

The ocean-going steamship, Porto Rico, built in Toledo, recently passed through the enlarged Canadian canals, and reached New York a few days ago. The ship is about 250 feet long. It is stated that the locks will accommodate vessels that are 270 feet long. The change in the capacity of the canals and locks since 1898 is marked. In that year it was necessary to cut in two United States revenue cutters on the Great Lakes to get them through the canals to the Atlantic. Then the canals could accommodate vessels of only 186 feet.

The enterprise of the 5,000,000 people of Canada in preparing a great water highway to the lakes can not be too highly commended. By that enterprise they have prepared for the naval defence of their southern border by letting the British navy into the Great Lakes. At least 140 vessels of that navy, some of them turreted, can now pass into the lakes. The navy can command the lakes as it commands the Mediterranean, should occasion arise. It is gratifying to know that the occasion is not likely to arise and that the canals will be devoted to commerce and the passage of ships built in American yards on the Great Lakes to the ocean.

It is possible now, by an understanding with the British government, to build some of our proposed gunboats and light cruisers on the Great Lakes. Such an understanding should be sought. If it can be reached there will be no need of a revision of the treaty concerning the number of armed vessels to be maintained by each country on the lakes.

While the Canadian people are to be congratulated, Americans would be better satisfied if the ships built on the Great Lakes could go to the ocean through an American canal and by way of the Hudson. And, if we are not much mistaken, there will be an immediate movement to provide such a canal. So long as Canada remains a part of the British empire, we are not sure of free navigation of the Canadian canals. It has been learned in Washington that plans have been matured for the defence by powerful batteries of all the locks on the Canadian canals. Many years may elapse before these batteries are installed. They will undoubtedly be ready for installation at any time if occasion shall require. With these locks securely guarded, 140 vessels of the British navy could pass them, guard the line of the canal, and also operate against the lake cities. There is no likelihood of such contingencies, but there should be preparation for them on this side of the border. Such preparation cannot be considered a warlike act on our part any more than we are to consider the precautions taken by Canada as warlike acts.

For good and sufficient reasons we should build a canal to the Hudson capable of floating goodly ships of our navy and of the merchant marine to the Great Lakes. In case of war, the ability to call to ocean service part of the Great Lake fleet under the American flag, might be of the highest usefulness. —Rochester Democrat and Chronicle.

Wife (to husband who has just joined a fishing club)--This is a pretty sort of life you are leading! Husband—Oh, do be quiet! Wife--I shall not be quiet. The day before yesterday you did not come home until yesterday; yesterday you came home today; and today, if I hadn't come to fetch you, you wouldn't have come home until tomorrow.—London Fishing Gazette.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD).

Suit for Injury of Vessel—Burden of Proof.—In a suit against a city to recover for an injury caused by the draw of a bridge swinging out and striking a passing vessel, where there was evident fault on the part of the vessel or the bridge tender, but it is not satisfactorily located by the evidence, the libel will be dismissed. City of Chicago vs. Wisconsin S. S. Co., 97 Fed. Rep. (U. S.) 107.

Towing Contract—Recission - The defendant, having nearly 7,000,000 feet of saw logs on the north shore of Lake Superior, which, when rafted, it desired towed up to its mill at Duluth, entered into a contract with the plaintiff, a Duluth tugman, to do the towing, and to assist the raftsman with a tug in placing the booms in position and in making up the rafts. The contract contained a provision that, in case the services performed by the plantiff should not be satisfactory, then, and in that event, the defendant reserved the privilege of terminating the contract at any time. The services to be performed by the plaintiff required skill and care, and more especially promptness in making up the rafts and in running them when made up, owing to the fact that they would be exposed to lake storms from certain directions. When the time arrived when defendant needed the services of the plaintiff with tugs, it, having ascertained that the plantiff had left Duluth with his tugs without leaving word where he had gone, or how long he would be absent, employed another tugman to perform the services, and, when plaintiff returned, promptly notified him that the contract was terminated, and that it would not accept his services. The evidence was conclusive that the dissatisfaction of the defendant was actual and honest, and not simulated, or fraudulently pretended. In an action by the plaintiff to recover the value of his contract, held, that the court properly directed a verdict for the defendant. The provision referred to considered in the light of the nature, subject, and purpose of the contract, must be construed as reserving to the defendant the absolute and unqualified right at any time to terminate the contract, so far as still executory, whenever it was dissatisfied with plaintiff's performance of the work, without any right on part of the plaintiff to call in question the reasonableness or adequacy of the grounds of its dissatisfaction, provided, only, that the dissatisfaction was actual and not merely fraudulently simulated. It was not necessary that the plaintiff should have actually performed part of the services before the defendant terminated the contract. The dissatisfaction might be based on plaintiff's delay in commencing the work as well as upon the character of services already performed. Magee vs. Scott & Holston Lumber Co., 80 N. W. Rep. (Minn.) 781.

VESSELS PASSING DETROIT, MICH.

The following report of vessel passages is furnished through the courtesy of Postmaster F. B. Dickerson, Detroit, Mich.:

Number of day passages from 5 p. m., October 15, to 5 p. m., November 15, 1,654; night passages, 1,379; total, 3,033.

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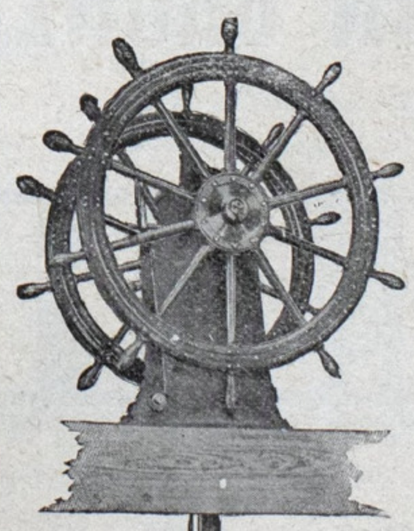

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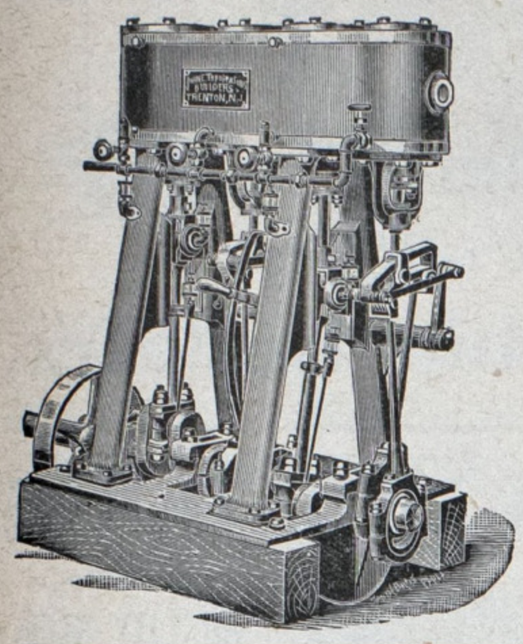

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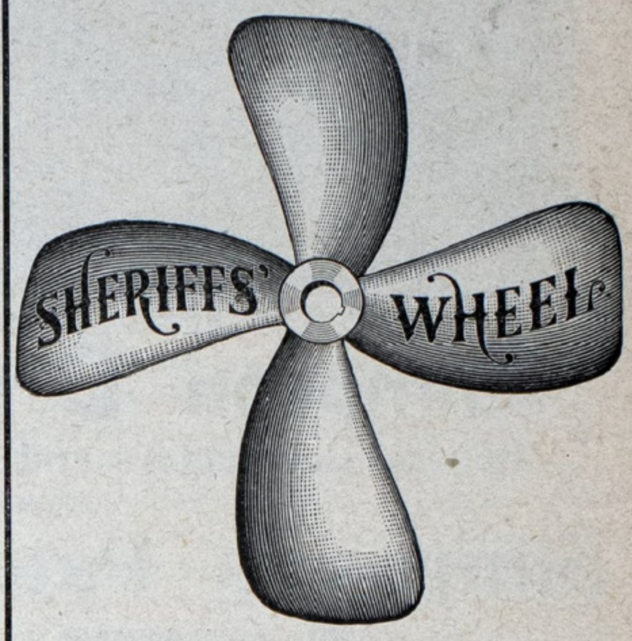

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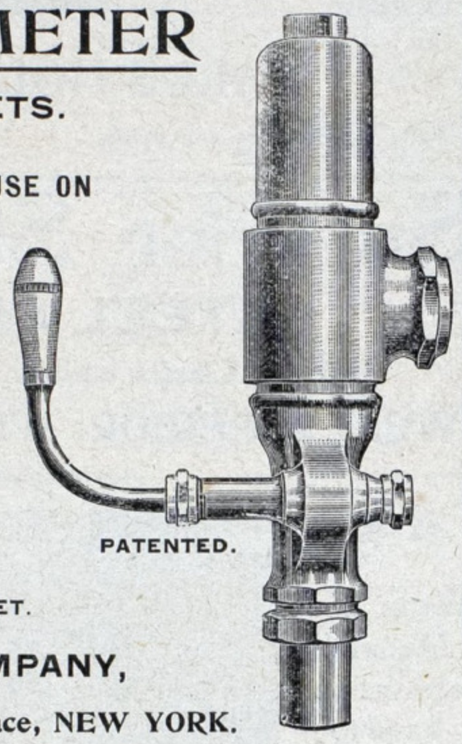

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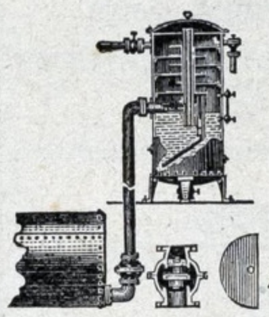

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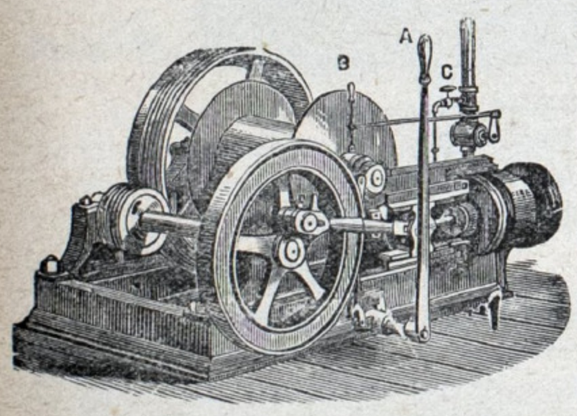

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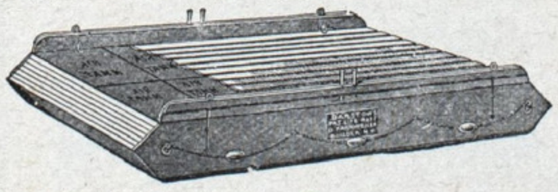

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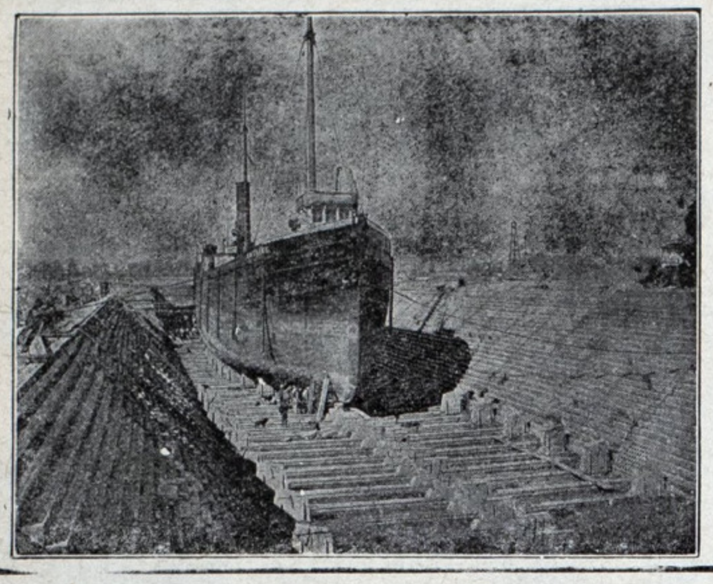

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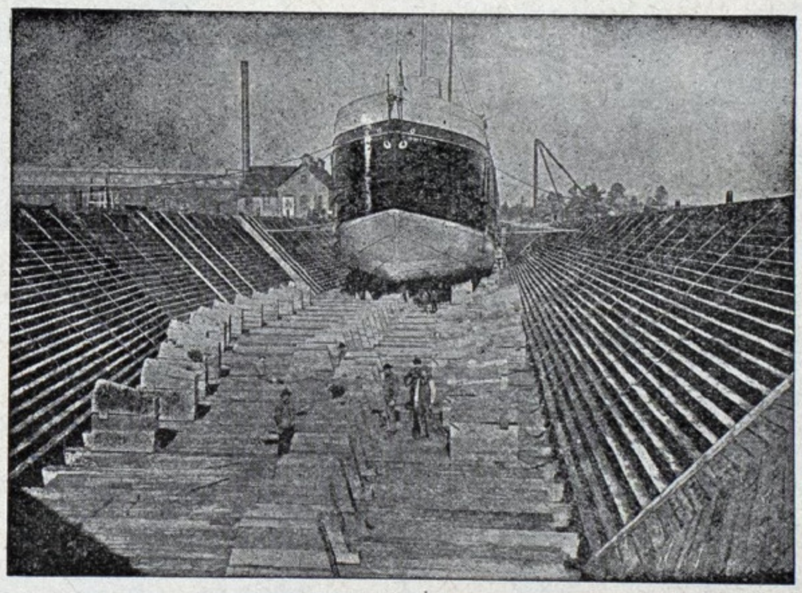

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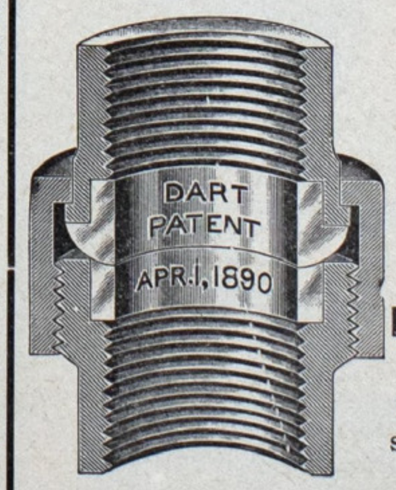

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